

WHAT IS CLAIMED IS:

1 1. An antifriction bearing with integrated lubricating
2 material for lubricating parts that move relative to
3 each other, in particular with a respective inner ring
4 that exhibits a running path and an outer ring, between
5 which rolling bodies, in particular bearing balls, are
6 arranged, characterized in that at least a part of the
7 surface of at least one of the parts exhibits a coating
8 (52, 53) of lubricant.

1 2. The antifriction bearing according to Claim 1,
2 characterized in that $n \cdot D_m \geq 1$ mill. (n = speed [RPM],
3 D_m = reference circle [mm]).

1 3. The antifriction bearing according to Claim 1 or 2,
2 characterized in that the lubricant is designed in such
3 a way as to be conveyed from the part carrying the
4 coating to the uncoated part as the parts move.

1 4. The antifriction bearing according to one of Claim 1 or
2 3, characterized in that the lubricant and the counter-
3 surface (57) of the uncoated part (54) are designed in
4 such a way that the lubricant adheres to the counter-
5 surface of the uncoated part (54).

1 5. The antifriction bearing according to one of Claims 1
2 to 4, characterized in that the coating exhibits a
3 varying composition (52a, 52b, 53, 42, 43, 44) from the
4 side of the component to be coated toward the free
5 surface.

1 6. The antifriction bearing according to one of the
2 preceding claims, characterized in that the amount of
3 lubricant on the free surface of the coating (55) is
4 increased with respect to the side of the component to
5 be coated.

1 7. The antifriction bearing according to one of Claims 1
2 to 6, characterized in that the coating encompasses at
3 least a carrier layer (52a, 42) connected with the
4 surface of the coated part, and at least one lubricant
5 layer (53, 43, 44).

1 8. The antifriction bearing according to one of Claims 1
2 to 7, characterized in that the lubricant from the
3 coating (53, 44) is a solid lubricant.

1 9. The antifriction bearing according to one of Claims 1
2 to 8, characterized in that the lubricant has
3 constituents incorporated into the coating (53, 44)
4 that assume a liquid state during operation.

1 10. The antifriction bearing according to one of Claims 1
2 to 9, characterized in that the coating (53, 44)
3 encompasses a metal-doped, diamond-like carbon layer
4 DCL.

1 11. The antifriction bearing according to one of Claims 1
2 to 10, characterized in that the coating encompasses a
3 single or multi-sheet polymer layer (42, 43, 44).

1 12. The antifriction bearing according to one of Claims 1
2 to 11, characterized in that the carrier layer (42,
3 52a) is metallic.

1 13. The antifriction bearing according to one of Claims 1
2 to 12, characterized in that the entire coating has
3 additional functional layers (52a, 52b, 42, 43), of
4 which one is pressure-stabilizing.

1 14. The antifriction bearing according to one of Claims 1
2 to 13, characterized in that one or more layers of the
3 coating have internal dampening.

1 15. The antifriction bearing according to one of Claims 1
2 to 14, characterized in that the electrical resistance
3 of the coating is altered by wear.

1 16. The antifriction bearing according to one of Claims 1
2 to 15, characterized in that one of the several layers
3 has an electrically insulating effect.

1 17. The antifriction bearing according to one of Claims 1
2 to 16, characterized in that the coating differs
3 visually from the basic material (51, 41).

1 18. The antifriction bearing according to Claim 17,
2 characterized in that the visual properties of the
3 coating are altered by wear.

1 19. The antifriction bearing according to one of Claims 1
2 to 18, characterized in that the coating causes the
3 surface hardness to decrease or remain unchanged.

1 20. The antifriction bearing according to one of Claims 1
2 to 19, characterized in that at least one component of
3 an antifriction bearing is provided with a
4 corresponding coating.

1 21. The antifriction bearing according to one of Claims 1
2 to 20, characterized in that at least one component of
3 a sliding bearing is provided with a coating.

1 22. The antifriction bearing according to one of Claims 1
2 to 21, characterized in that an additional lubricant is
3 provided exclusively on the contacting surfaces of the
4 parts.

1 23. The antifriction bearing according to one of Claims 1
2 to 22, characterized in that the additional lubricant
3 has high adhesive and cohesive forces.

1 24. The antifriction bearing according to one of Claims 1
2 to 23, characterized in that an additional, second
3 unbound lubricant is present.

1 25. The antifriction bearing according to one of Claims 1
2 to 24, characterized in that the lubricant is designed
3 as a carrier for the lubricant(s).

1 26. The antifriction bearing according to one of Claims 1
2 to 25, characterized in that the coating and/or the
3 additional lubricants can be sterilized.

1 27. The antifriction bearing according to one of Claims 1
2 to 26, characterized in that the lubricant of the
3 coating (53, 44) and/or the additional lubricant are
4 selected in such a way as to be compatible with a
5 lubricant according to prior art.

1 28. The antifriction bearing according to one of Claims 1
2 to 27, characterized in that the lubricants consist of
3 several layers.